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EUROPEAN PATENT APPLICATION

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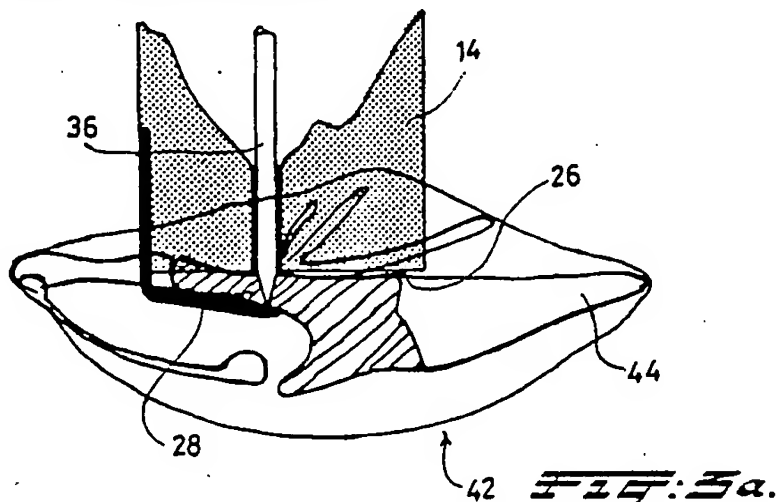
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54 Mounting support.

57 Device for supporting a carcass or part of a carcass (42, 90) of slaughtered poultry, comprising a first and a second support member having surface parts (26, 28; 60, 62; 104, 112) facing one another, one of the support members (28, 62, 112) being so constructed that it is suitable for penetrating into connective tissue and/or flesh parts (46) of the carcass.



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Mounting support

The invention relates to a device for supporting a carcass or part of a carcass of slaughtered poultry, comprising a first and a second support member having surface parts facing one another.

A device of this kind is the subject of the prior unpublished Netherlands Patent Application 8503287 in the name of the Applicants. In this patent application it has already been proposed to support a carcass or a part of a carcass, for the purpose of carrying out operations on it, on the least valuable parts, and the present application relates to a further development and improvement of that proposal.

According to the present application it is proposed to construct one of the support members in such a manner that it is suitable for penetrating into connective tissue or flesh parts of the carcass. In particular it is proposed that this device should be used in such a manner that by penetration into the carcass, directly next to the breastbone, with one of the support members, the breastbone will be embraced by the two support members. The device can be used as a filleting block for filleting breast portions, but also for supporting larger carcass parts, such as so-called "front halves" or even whole carcasses.

While the abovementioned application has already proposed the fastening of the carcass or carcass part by a subsidiary portion thereof (back and neck), the present application goes still further and proposes to fix the carcass or carcass part by gripping a waste part (the breastbone). Damage to the flesh part is thus avoided, and support in the most hygienic manner possible is achieved. The clamping has to be effected only once, whereupon all necessary operations are directly possible. The two support members form a fixed reference point, in relation to which the carcass or carcass part is fastened, and this fixed reference point can thus also be used as a reference for carrying out mechanical operations.

Advantageous embodiments of the invention are indicated in Claims 2 to 9.

The invention will now be explained on the hand of the drawings.

Figure 1 is a side view, partly in section, of a first embodiment of the mounting supporting according to the invention.

Figure 2 is a view from below, partly in section, of this embodiment.

Figures 3a and 3b illustrate the position of this embodiment in relation to the parts of a breast portion which is to be filleted, in longitudinal section and bottom view respectively.

Figures 4a to 4d illustrate the use of this embodiment.

Figure 5 is a longitudinal section of a second embodiment of the invention.

Figure 6 is an end view of this embodiment.

Figure 7 illustrates the use of a third embodiment for supporting a large carcass part.

The embodiment shown in Figure 1 and designated with numeral 10 is intended for supporting a breast portion which is to be filleted, and comprises a casing 12 and a head 14. The casing 12 has a recess 16, in which is received an operating member 18 adapted to turn with respect to the casing 12; by means of a ball 22, which is loaded by a spring 20 and which snaps into recesses in the operating member 18, desired angular distances can be adjusted.

Facing the end face 26 of the head 14 is disposed a blade-like separating member 28, which is fastened to the head 14 and has an end edge 30. A shaft 32 is fastened in the operating member 18, passing through a corresponding bore in the casing 12 and the head 14 and being fastened therein by a lock screw 34. An elongate pin 36 provided with a sharp point 38 at its free end passes through this shaft 32. The pin 36 can be moved in the longitudinal direction by means of the eccentric operating member 40.

Figures 3a and 3b show the use of this embodiment for securing a breast portion 42. As shown in the drawing, the end face 26 of the head 14 and the blade 28 embrace the breastbone 44, while when the device is thus fitted the sharp end of the blade 28 penetrates into the flesh 46 directly adjoining the breastbone 44. By means of the pin 36, which is thereupon pressed into the breastbone 44, additional security is achieved in the fastening of the breast portion on the mounting support, which in one embodiment, in which the breast portion can be turned into different positions, may be of importance, although not essential.

Since the head 14 can turn with respect to the casing, the breast portion can be variously positioned for different operations to be carried out for the purpose of removing the breast flesh 46, all as shown in Figures 4a to 4d.

These figures show how the device 10 rests by the bottom surfaces 11 and 13 on the guideways 15 and 17 of a conveyor track 19, along which it is moved in the direction of the arrow 21 (see Figure 4b).

Figure 4a illustrates the mounting of the breast portion with the breastbone between the end face 26 and the blade 28; by means of the operating member 40 the pin 36 is operated so that its point

38 penetrates into the breastbone. This operating of the member 40 can be effected by hand, but also with the aid of an appropriate guide 23, along which the support device 10 moves. Between the guideways 15 and 17 a fixed stop 25 is disposed, which cooperates with the operating member 18 and, on the passing of the filleting block, turns the head 14 together with the breast portion 42 by means of this operating member 18 into a position suitable for a certain operation, for example in the direction of the arrow 27. The operations can be carried out either by hand or by means of tools installed at various processing stations.

Figures 5 and 6 relate to a slightly modified embodiment, which is based on the same principle and is used in the same way. This embodiment of the mounting block according to the invention, which is indicated as a whole by the reference numeral 50, comprises the casing 52 provided with a recess 54, which is T-shaped in section and by means of which the casing is mounted on a suitable carrier of corresponding profile. The casing 52 is coupled by means of brackets 56a, 56b to a drive chain 58 and, carrying a carcass part, is carried along a number of processing positions. At one end (the right-hand end in the drawing) the casing 50 ends in an end face 60, opposite a blade-shaped separating member 62 having an end edge 64 is disposed and fastened by means of the screw 66; at the other end the casing 50 has a recess 68 containing a sliding member 70, which can be moved in the longitudinal direction of the casing by means of a pawl 72. An elongate pin 74 is fastened by its left-hand end 76 in the sliding member 70; its sharp right-hand end 78 lies opposite the end of the blade 62. A spring 80 disposed around the pin 74 urges the sliding member 70, and consequently the pin 74, into a position in which its tip 78 is retracted.

The embodiment described above is used in the same way as the embodiment previously described.

With both embodiments the breastbone can be fractured after the breast portion has been secured, breaking in the brittle part of the bone, that is to say where the pin penetrates into the bone. The fillet thus spreads out, and the ribs can easily be removed. The use of the pin provides the advantage that the bone is weakened by the penetration of the pin.

The use of the device according to the invention obviously goes further than solely supporting a breast portion for the removal of the breast meat. Figure 7 shows schematically an embodiment which is particularly suitable for supporting larger carcass parts, such as indicated as a whole by the reference numeral 90; the figure also shows the backbone 92 and the breastbone 94 with the breast

fillet 96. The mount support 98 is here provided with the casing 100, which at the front end terminates in the head 102, whose front face 104 includes an acute angle with the longitudinal axis 101 of the casing 100. The head 102 contains the locking pin 106, which for example can be operated hydraulically by supplying pressurized water to the space 108 behind the pin 106 via the passage 110. Here again the separating member 112 equipped with the end edge 114 and cooperating with the end face 104 is provided.

The mounting support is introduced into the body cavity 116 through the usual extraction opening 118 formed in a previous operation, and is pressed into the head and neck cavity until the end edge 114 of the blade 112 has passed the front edge of the breastbone 94; the blade can then be hooked around the front edge of the breastbone.

It is observed that in all embodiments the separating member penetrating into the immediate proximity of the breastbone, in conjunction with the end surface facing it, forms a fixed reference point, in relation to which the carcass part is positioned, so that the operations on the carcass part can be carried out not only by hand, but also with tools which can be adjusted in relation to this reference point. Since the separating member penetrates into the carcass part in the immediate proximity of the breastbone, no valuable breast meat is damaged.

Claims

1. Device for supporting a carcass or part of a carcass (42, 90) of slaughtered poultry, comprising a first and a second support member having surface parts (26, 28; 60, 62; 104, 112) facing one another, characterized in that one of the support members (28, 62, 112) is so constructed that it is suitable for penetrating into connective tissue and/or flesh parts (46) of the carcass.

2. Device according to Claim 1, characterized in that said support member comprises at least one elongate member (28, 62, 112).

3. Device according to Claim 2, characterized in that said support member (28, 62) is made in the form of a blade.

4. Device according to Claim 2 or 3, characterized in that the other member is formed by the end face (20, 60, 104) of a holder (14, 52, 100) to which the first support member (28, 62, 112) extending parallel or at an acute angle to said end face, is fastened.

5. Device according to Claim 4, characterized in that the holder (14, 52, 100) contains a locking member (36, 74, 106) provided with a sharp point

and adapted to move to-and-fro, in the direction of the first support surface (28, 62, 112), through an opening in the end face (20, 60, 104).

6. Device according to Claim 5, characterized in that the locking member consists of a locking pin (36, 74, 106). 5

7. Device according to Claim 4 to 6, characterized in that the holder (14, 52) is supported by a carrier (12) for rotation about the longitudinal axis of the locking pin (36, 74). 10

8. Device according to Claim 5, characterized in that the holder is formed by an elongate casing (100) having a thickened end portion (102) whose front face (104) forms the end face and encloses an acute angle with the longitudinal axis (101) of the casing and that the securing member (106) is received in said end part. 15

9. Device according to Claim 4 to 8, characterized in that the holder (14) is mounted on a conveyor track (15, 17). 20

10. Method of supporting a carcass or carcass part containing the breastbone of slaughtered poultry, using first and second support members, characterized in that by penetrating into the carcass in the immediate proximity of the breastbone the two support members embrace the latter. 25

11. Method according to Claim 10, characterized in that the breastbone is clamped between the two support members. 30

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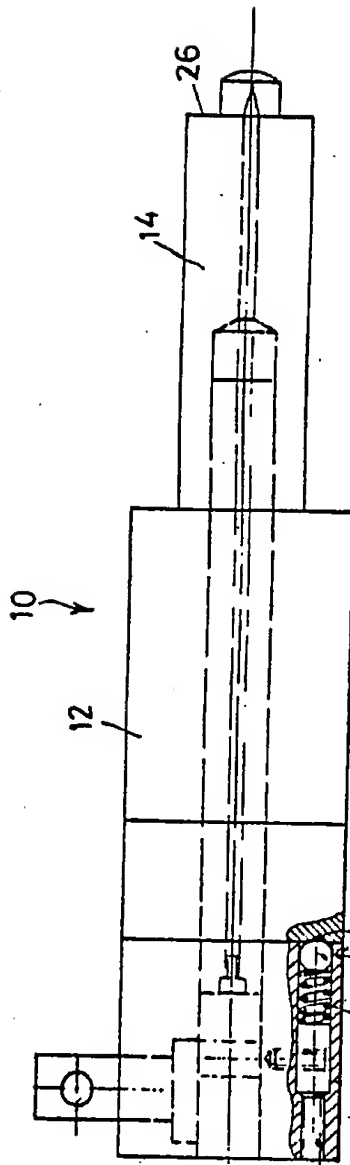


FIG. 2.

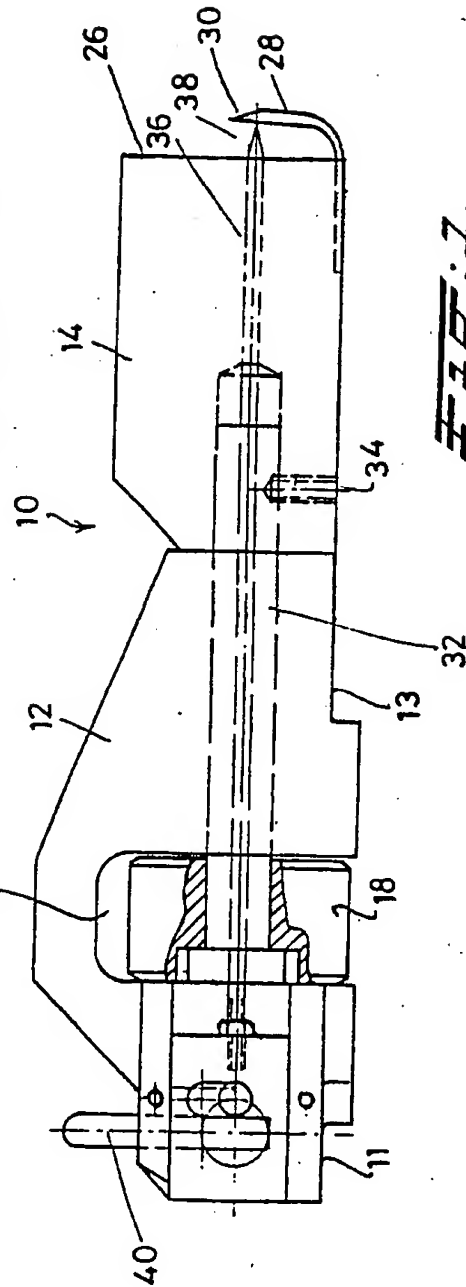
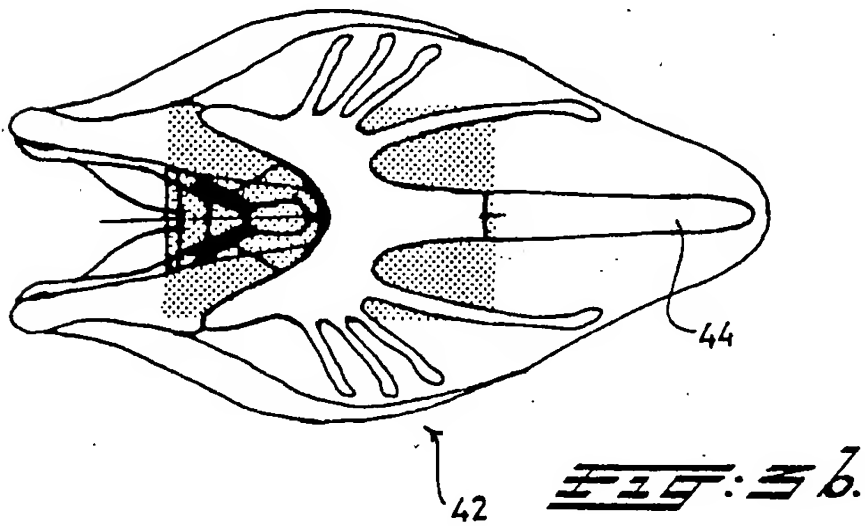
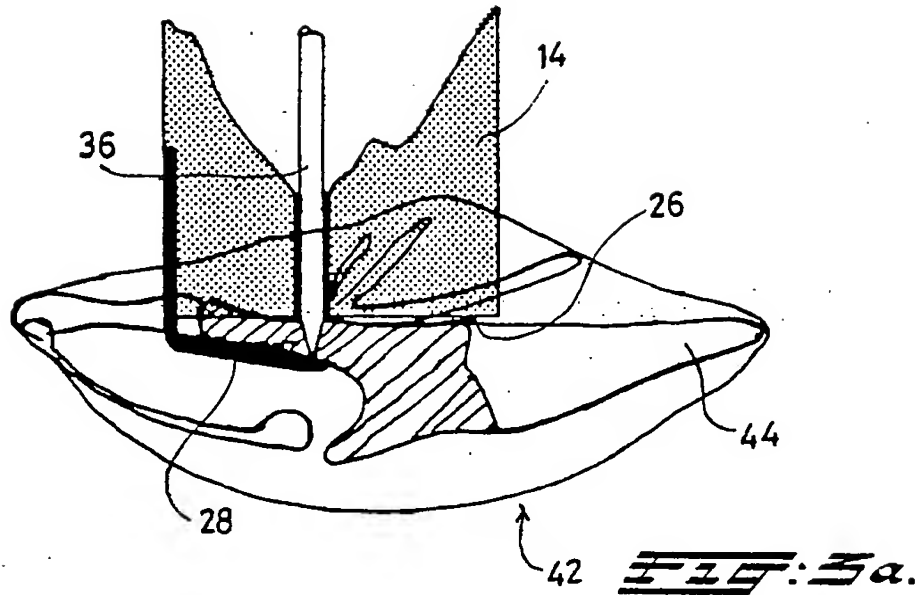
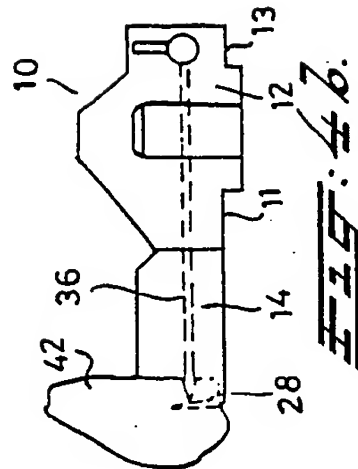
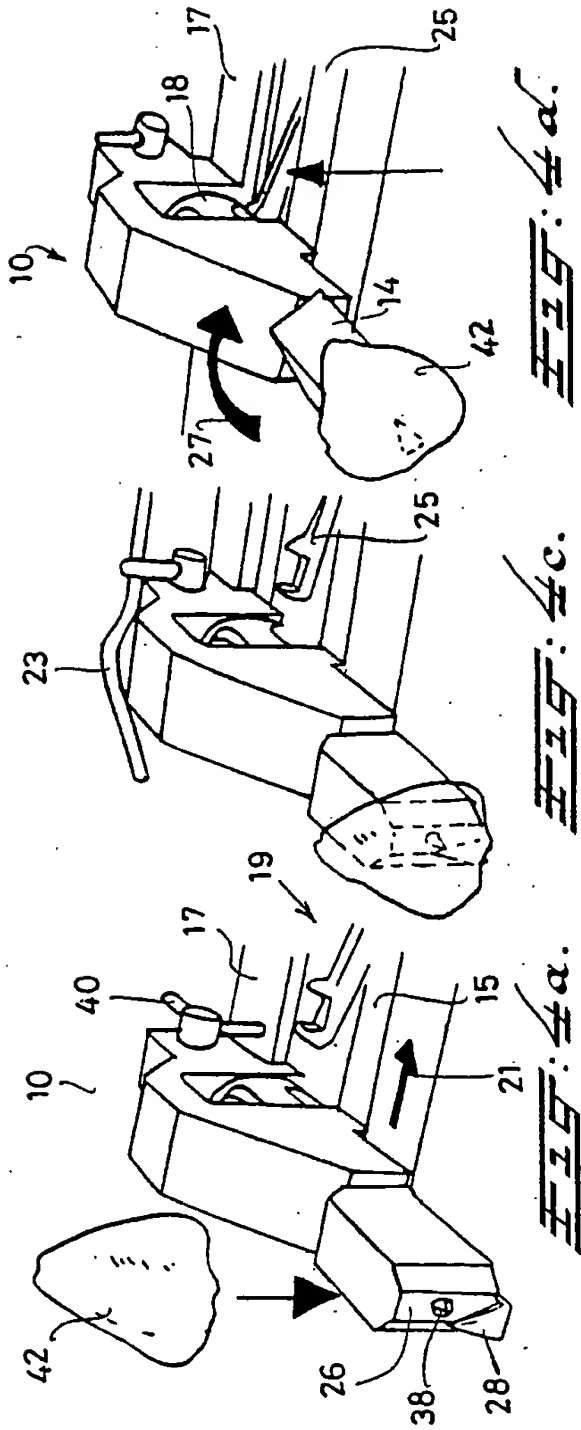


FIG. 3.





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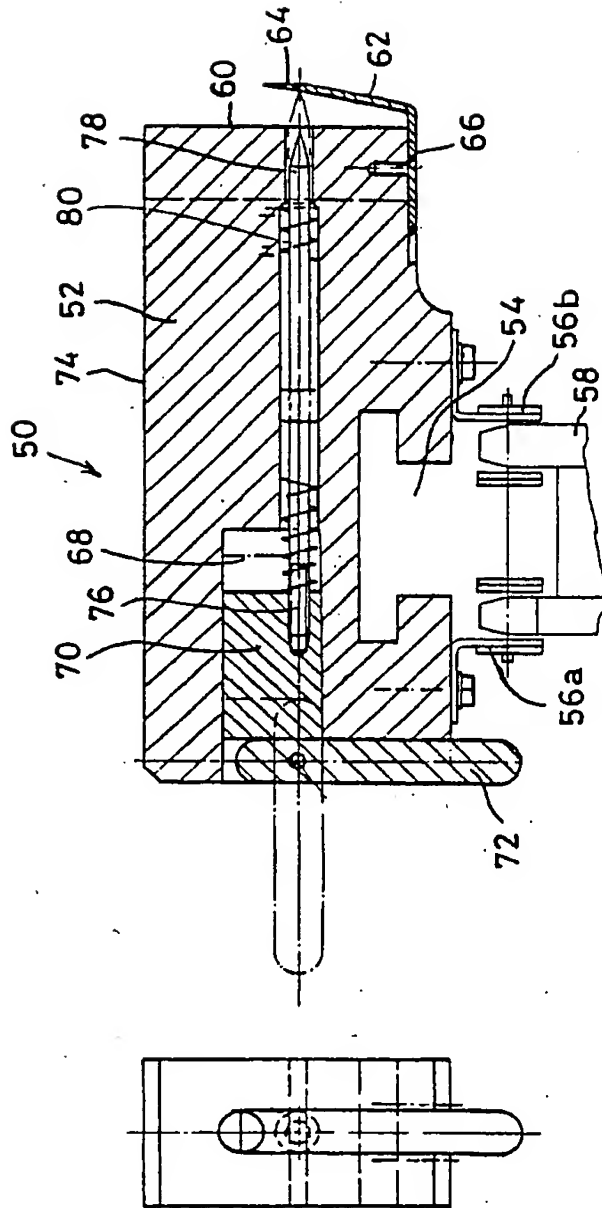
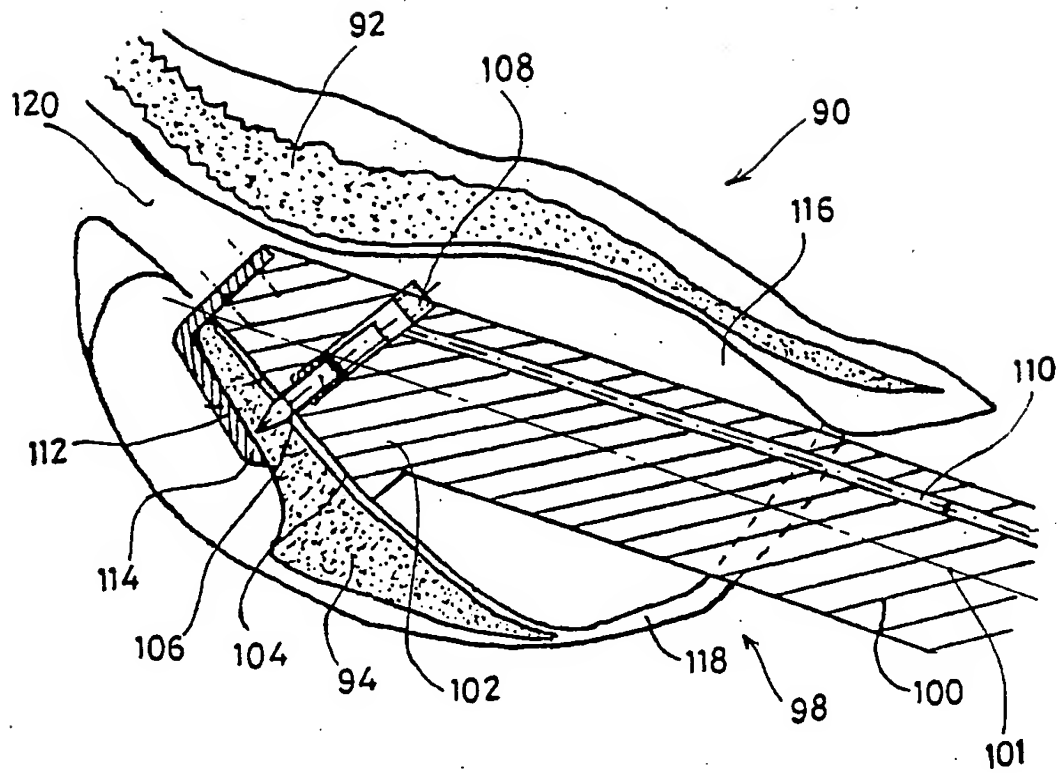


FIG. 6.

FIG. 5.

**FIG. 7.**



EP 87 20 1052

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	DE-C-3 444 430 (BAADER) * Column 5, line 66 - column 6, line 16 *	1,2,5, 6,9,10	A 22 C 21/00
P,A	EP-A-0 207 553 (SYSTEMATE) * Page 8, lines 20-23 *	1	
A	US-A-4 150 460 (CLARK) * Claim 1 *	7	
A	US-A-3 833 967 (KIESER)		
A	NL-A-8 105 200 (TIELEMAN)		
A	FR-A-1 517 853 (DEBAUD)		
A	US-A-4 385 419 (CANTRELL)		
A	FR-A-2 428 979 (KORHONEN)		
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		06-10-1987	DE LAMEILLIEURE D.
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Description

The invention relates to a device for supporting a carcass or part of a carcass of a slaughter animal, comprising a first and a second support member having surface parts facing one another.

A device of this kind is known from FR-A-1.517.853. This known device is intended for supporting a large bone with meat, the bone being clamped between two sharp curved claws which are directed towards each other. One of the claws penetrates into the marrow channel while the other one grips around the end of the bone.

The invention aims to provide a support of the above mentioned kind which is particularly intended for supporting a carcass or carcass part of poultry by supporting the breast bone thereof. To this end the first support member is shaped as a supporting surface while the second support member is an elongated member extending parallel or at an acute angle to said supporting surface of the first support member and which is suitable for penetrating into connective tissue and/or flesh parts of the carcass in the immediate proximity of the breastbone.

By means of this measure an excellent support of the carcass or carcass parts is obtained with the further advantage that the carcass or carcass parts is fixed by gripping a waste part (the breastbone). Damage to the flesh part is thus avoided and a support in the most hygienic manner possible is achieved. The clamping has to be effected only once whereupon all necessary operations are directly possible. The two support members form a fixed reference point in relation to which the carcass or carcass part is fastened, and this fixed reference point can thus also be used as a reference for carrying out mechanical operations.

Advantageous embodiments of the invention are indicated in Claims 2 to 8. The invention furthermore provides a method for supporting a carcass or part of a carcass as defined in claim 9, and advantageously executed as defined in claim 10.

The invention will now be explained on the hand of the drawings.

Figure 1 is a side view, partly in section, of a first embodiment of the mounting supporting according to the invention.

Figure 2 is a view from below, partly in section, of this embodiment.

Figures 3a and 3b illustrate the position of this embodiment in relation to the parts of a breast portion which is to be filleted, in longitudinal section and bottom view respectively.

Figures 4a to 4d illustrate the use of this embodiment.

Figure 5 is a longitudinal section of a second embodiment of the invention.

Figure 6 is an end view of this embodiment.

Figure 7 illustrates the use of a third embodiment for supporting a large carcass part.

The embodiment shown in Figure 1 and designated with numeral 10 is intended for supporting a breast portion which is to be filleted, and comprises a casing 12 and a head 14. The casing 12 has a recess 16, in which is received an operating member 18 adapted to turn with respect to the casing 12; by means of a ball 22, which is loaded by a spring 20 and which snaps into recesses in the operating member 18, desired angular distances can be adjusted.

Facing the end face 26 of the head 14 is disposed a blade-like separating member 28, which is fastened to the head 14 and has an end edge 30. A shaft 32 is fastened in the operating member 18, passing through a corresponding bore in the casing 12 and the head 14 and being fastened therein by a lock screw 34. An elongate pin 36 provided with a sharp point 38 at its free end passes through this shaft 32. The pin 36 can be moved in the longitudinal direction by means of the eccentric operating member 40.

Figures 3a and 3b show the use of this embodiment for securing a breast portion 42. As shown in the drawing, the end face 26 of the head 14 and the blade 28 embrace the breastbone 44, while when the device is thus fitted the sharp end of the blade 28 penetrates into the flesh 46 directly adjoining the breastbone 44. By means of the pin 36, which is thereupon pressed into the breastbone 44, additional security is achieved in the fastening of the breast portion on the mounting support, which in one embodiment, in which the breast portion can be turned into different positions, may be of importance, although not essential.

Since the head 14 can turn with respect to the casing, the breast portion can be variously positioned for different operations to be carried out for the purpose of removing the breast flesh 46, all as shown in Figures 4a to 4d.

These figures show how the device 10 rests by the bottom surfaces 11 and 13 on the guideways 15 and 17 of a conveyor track 19, along which it is moved in the direction of the arrow 21 (see Figure 4b).

Figure 4a illustrates the mounting of the breast portion with the breastbone between the end face 26 and the blade 28; by means of the operating member 40 the pin 36 is operated so that its point 38 penetrates into the breastbone. This operating of the member 40 can be effected by hand, but also with the aid of an appropriate guide 23, along which the support device 10 moves. Between the guideways 15 and 17 a fixed stop 25 is disposed, which cooperates with the operating member 18 and, on the passing of the filleting block, turns the

head 14 together with the breast portion 42 by means of this operating member 18 into a position suitable for a certain operation, for example in the direction of the arrow 27. The operations can be carried out either by hand or by means of tools installed at various processing stations.

Figures 5 and 6 relate to a slightly modified embodiment, which is based on the same principle and is used in the same way. This embodiment of the mounting block according to the invention, which is indicated as a whole by the reference numeral 50, comprises the casing 52 provided with a recess 54, which is T-shaped in section and by means of which the casing is mounted on a suitable carrier of corresponding profile. The casing 52 is coupled by means of brackets 56a, 56b to a drive chain 58 and, carrying a carcass part, is carried along a number of processing positions. At one end (the right-hand end in the drawing) the casing 50 ends in an end face 60, opposite a blade-shaped separating member 62 having an end edge 64 is disposed and fastened by means of the screw 66; at the other end the casing 50 has a recess 68 containing a sliding member 70, which can be moved in the longitudinal direction of the casing by means of a pawl 72. An elongate pin 74 is fastened by its left-hand end 76 in the sliding member 70; its sharp right-hand end 78 lies opposite the end of the blade 62. A spring 80 disposed around the pin 74 urges the sliding member 70, and consequently the pin 74, into a position in which its tip 78 is retracted.

The embodiment described above is used in the same way as the embodiment previously described.

With both embodiments the breastbone can be fractured after the breast portion has been secured, breaking in the brittle part of the bone, that is to say where the pin penetrates into the bone. The fillet thus spreads out, and the ribs can easily be removed. The use of the pin provides the advantage that the bone is weakened by the penetration of the pin.

The use of the device according to the invention obviously goes further than solely supporting a breast portion for the removal of the breast meat. Figure 7 shows schematically an embodiment which is particularly suitable for supporting larger carcass parts, such as indicated as a whole by the reference numeral 90; the figure also shows the backbone 92 and the breastbone 94 with the breast fillet 96. The mount support 98 is here provided with the casing 100, which at the front end terminates in the head 102, whose front face 104 includes an acute angle with the longitudinal axis 101 of the casing 100. The head 102 contains the locking pin 106, which for example can be operated hydraulically by supplying pressurized water

to the space 108 behind the pin 106 via the passage 110. Here again the separating member 112 equipped with the end edge 114 and cooperating with the end face 104 is provided.

The mounting support is introduced into the body cavity 116 through the usual extraction opening 118 formed in a previous operation, and is pressed into the head and neck cavity until the end edge 114 of the blade 112 has passed the front edge of the breastbone 94; the blade can then be hooked around the front edge of the breastbone.

It is observed that in all embodiments the separating member penetrating into the immediate proximity of the breastbone, in conjunction with the end surface facing it, forms a fixed reference point, in relation to which the carcass part is positioned, so that the operations on the carcass part can be carried out not only by hand, but also with tools which can be adjusted in relation to this reference point. Since the separating member penetrates into the carcass part in the immediate proximity of the breastbone, no valuable breast meat is damaged.

Claims

1. Device for supporting a carcass or part of a carcass (42, 90) of a slaughter animal, comprising a first and a second support member having surface parts (26, 28; 60, 62; 104, 112) facing one another, characterized in that for supporting a carcass or carcass parts of poultry by supporting the breastbone thereof the first support member (26, 60, 104) is shaped as a supporting surface while the second support member (28, 62, 112) is an elongated member extending parallel or at an acute angle to said supporting surface of the first support member (26, 60, 104) and which is suitable for penetrating into connective tissue and/or flesh parts (46) of the carcass in the immediate proximity of the breastbone.
2. Device according to Claim 1, characterized in that said second support member (28, 62) is made in the form of a blade.
3. Device according to Claim 1 or 2, characterized in that the first support member is formed by the end face (20, 60, 104) of a holder (14, 52, 100) to which the second support member (28, 62, 112) extending parallel or at an acute angle to said end face, is fastened.
4. Device according to Claim 3, characterized in that the holder (14, 52, 100) contains a locking member (36, 74, 106) provided with a sharp point and adapted to move to-and-fro, in the direction of the second support member (28,

62, 112), through an opening in the end face (20, 60, 104).

5. Device according to Claim 6, characterized in that the locking member consists of a locking pin (36, 74, 106).
6. Device according to Claim 3 to 5, characterized in that the holder (14, 52) is supported by a carrier (12) for rotation about the longitudinal axis of the locking pin (36, 74).
7. Device according to Claim 6, characterized in that the holder is formed by an elongate casing (100) having a thickened end portion (102) whose front face (104) forms the end face and encloses an acute angle with the longitudinal axis (101) of the casing and that the securing member (106) is received in said end part.
8. Device according to Claim 3 to 7, characterized in that the holder (14) is mounted on a conveyor track (15, 17).
9. Method of supporting a carcass or carcass part containing the breastbone of slaughtered poultry, using first and second support members, characterized in that by penetrating into the carcass in the immediate proximity of the breastbone the two support members embrace the latter.
10. Method according to Claim 9, characterized in that the breastbone is clamped between the two support members.

Revendications

1. Dispositif pour supporter une carcasse ou une partie d'une carcasse (42, 90) d'un animal d'abattoir, comprenant un premier et un second éléments de supports ayant des parties de surface (26, 28; 60, 62; 104, 112) se faisant face, caractérisé en ce que, pour supporter une carcasse ou des parties de carcasse de volailles en supportant leur sternum, le premier élément de support (26, 60, 104) a la forme d'une surface de support tandis que le second élément de support (28, 62, 112) est un élément allongé parallèle ou faisant un angle aigu avec ladite surface de support du premier élément de support (26, 60, 104) et convient pour pénétrer dans les tissus conjonctifs et/ou les parties de chair (46) de la carcasse à proximité immédiate du sternum.
2. Dispositif suivant la revendication 1, caractérisé en ce que le second élément de support

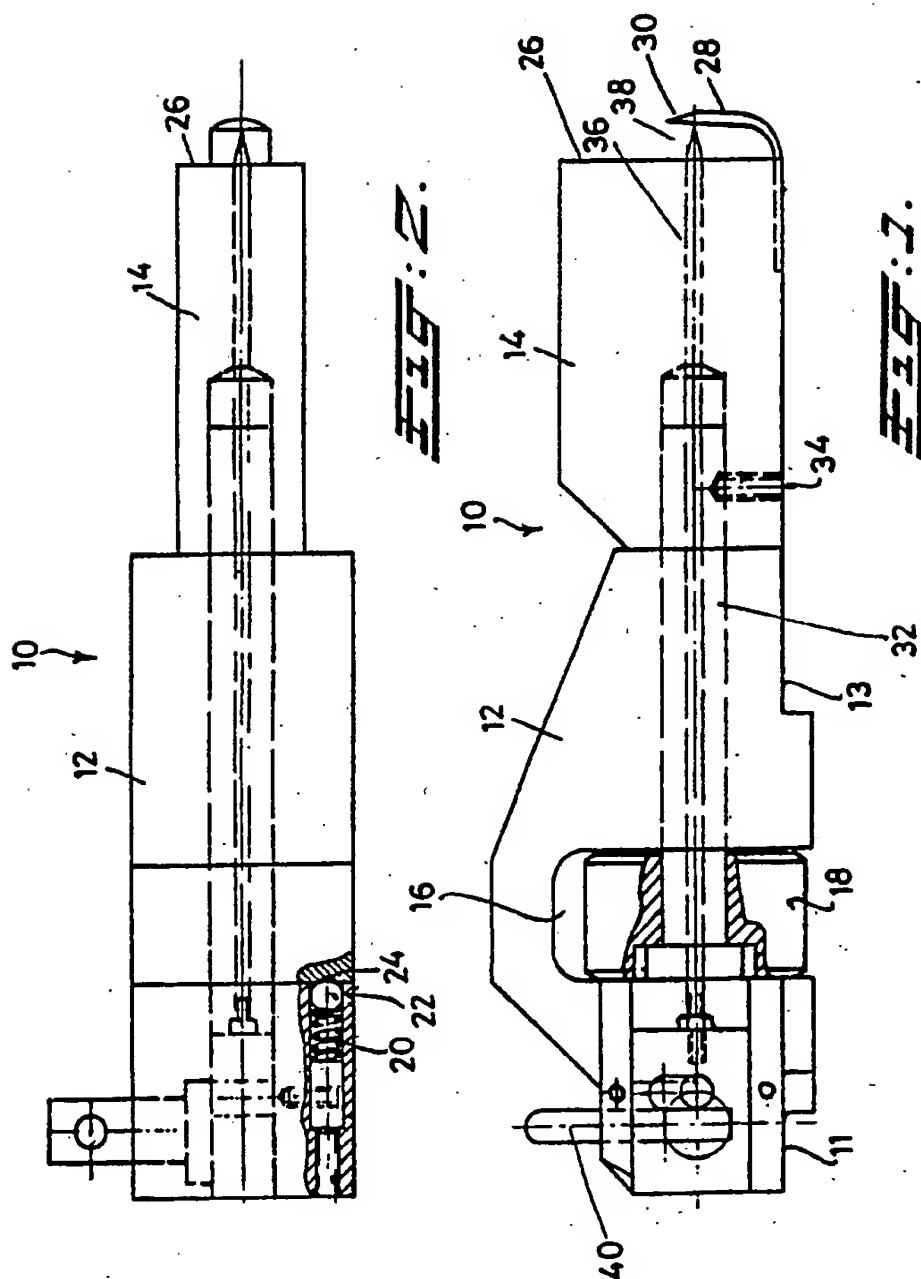
(28, 62) est fait en forme de lame.

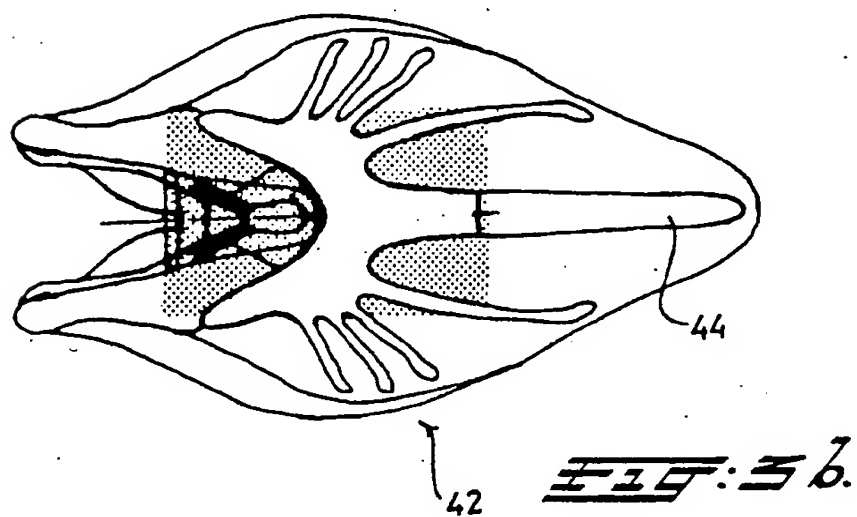
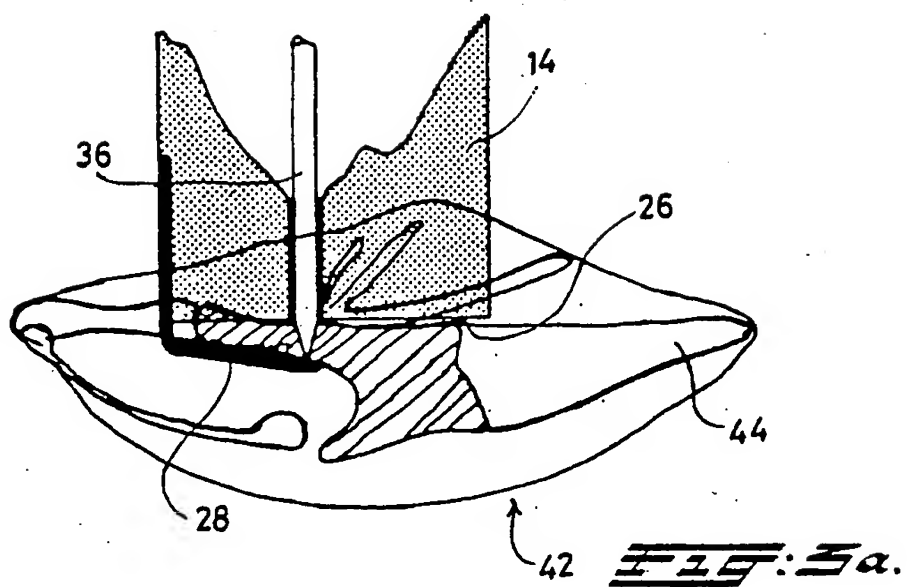
3. Dispositif suivant la revendication 1 ou 2, caractérisé en ce que le premier élément de support est formé par la face d'extrémité (20, 60, 104) d'un boîtier (14, 52, 10) auquel est fixé le second élément de support (28, 62, 112) parallèle ou faisant un angle aigu avec ladite face d'extrémité.
4. Dispositif suivant la revendication 3, caractérisé en ce que le boîtier (14, 52, 10) contient un élément de verrouillage (36, 74, 106) pourvu d'un point aigu et adapté pour se déplacer alternativement dans la direction du second élément de support (28, 62, 112) par une ouverture dans la face d'extrémité (20, 60, 104).
5. Dispositif suivant la revendication 4, caractérisé en ce que l'élément de verrouillage est un aiguille de verrouillage (36, 74, 106).
6. Dispositif suivant l'une des revendications 3 à 5, caractérisé en ce que le boîtier (14, 52) est supporté par un porteur (12) pour tourner autour de l'axe longitudinal de l'aiguille de verrouillage (36, 74).
7. Dispositif suivant la revendication 6, caractérisé en ce que le boîtier est formé par un boîtier allongé (100) ayant une partie d'extrémité épaissie (102) dont la face avant (104) forme la face d'extrémité et qui fait un angle aigu avec l'axe longitudinal (101) du boîtier et en ce que l'élément de fixation (106) est logé dans ladite portion d'extrémité.
8. Dispositif suivant l'une des revendications 3 à 7, caractérisé en ce que le boîtier (14) est monté sur un rail de convoyeur (15, 17).
9. Méthode pour supporter une carcasse ou une partie de carcasse contenant le sternum d'une volaille d'abattoir, utilisant un premier et un second éléments de supports, caractérisée en ce qu'en pénétrant dans la carcasse dans le voisinage immédiat du sternum, les deux éléments de support enserment ce dernier.
10. Méthode suivant la revendication 9, caractérisée en ce que le sternum est bloqué entre les éléments de supports.

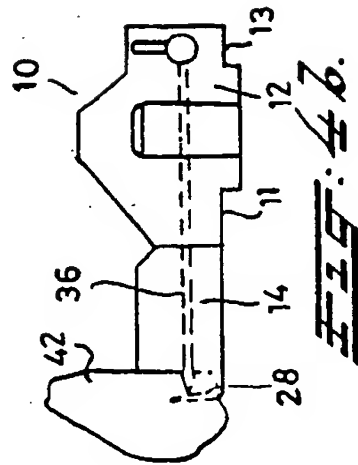
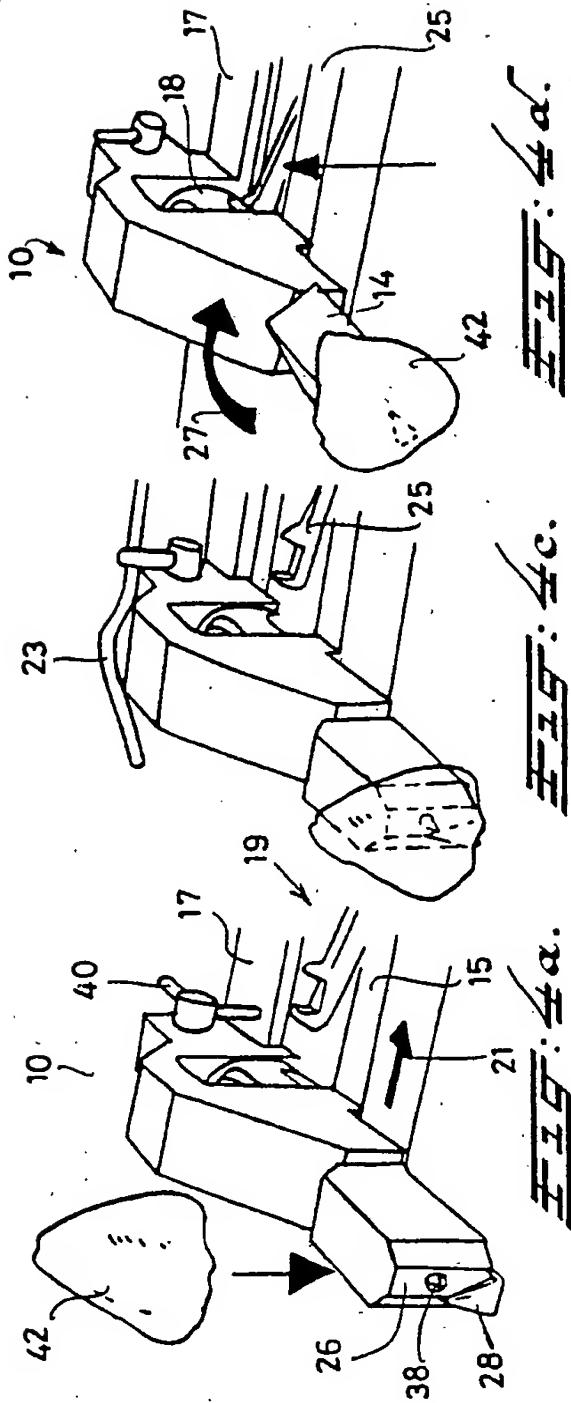
Patentansprüche

1. Eine Vorrichtung zum Haltern eines toten Tierkörpers oder Teile eines toten Tierkörpers (42, 90) eines Schlachttiers, mit einem ersten und

- einem zweiten Halterungselement, welches Oberflächenteile (26, 28; 60, 62; 104, 112) aufweist, die einander zugewandt sind, **dadurch gekennzeichnet**, daß, zum Haltern eines toten Tierkörpers oder Tierkörperteile von Geflügel durch Haltern ihres Brustknochens, das erste Halterungselement (26, 60, 104) als eine Halterungsfläche geformt ist, während das zweite Halterungselement (28, 62, 112) ein längliches Teil ist, das sich parallel oder unter einem spitzen Winkel zu der Halterungsfläche des ersten Halterungselements (26, 60, 104) erstreckt und welches zum Eindringen in Bindegewebe und/oder Fleischteile (46) des toten Tierkörpers in unmittelbarer Nähe des Brustknochens geeignet ist.
2. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet**, daß das zweite Halterungselement (28, 62) in der Form einer Lamelle hergestellt ist.
3. Vorrichtung nach Anspruch 1 oder 2, **dadurch gekennzeichnet**, daß das erste Halterungselement durch eine Endstirnfläche (20, 60, 104) eines Halters (14, 52, 100), an welchem das zweite Halterungselement (28, 62, 112), das sich parallel oder unter einem spitzen Winkel zu der Endstirnfläche erstreckt, befestigt ist, gebildet ist.
4. Vorrichtung nach Anspruch 3, **dadurch gekennzeichnet**, daß der Halter (14, 52, 100) ein Verriegelungsteil (36, 74, 106) enthält, welches mit einem scharfen Punkt versehen, und dazu vorgesehen ist, sich in der Richtung des zweiten Halterungselements (28, 62, 112) durch eine Öffnung in der Endstirnfläche (20, 60, 104) hin- und herzubewegen.
5. Vorrichtung nach Anspruch 4, **dadurch gekennzeichnet**, daß das Verriegelungsteil einen Verriegelungsstift (36, 74, 106) umfaßt.
6. Vorrichtung nach Anspruch 3 bis 5, **dadurch gekennzeichnet**, daß der Halter (14, 52) durch einen Träger (12) zum Drehen um die Längsachse des Verriegelungsstifts (36, 74) gehalten ist.
7. Vorrichtung nach Anspruch 6, **dadurch gekennzeichnet**, daß der Halter durch ein längliches Gehäuse (100) mit einem verdickten Endteil (102) gebildet ist, dessen Frontstirnfläche (104) die Endstirnfläche bildet und einen spitzen Winkel mit der Längsachse (101) des Gehäuses einschließt, und daß das Verriegelungsteil (106) in dem Endteil aufgenommen ist.
8. Vorrichtung nach den Ansprüchen 3 bis 7, **dadurch gekennzeichnet**, daß der Halter (14) auf einer Förderbahn (15, 17) angebracht ist.
9. Verfahren zum Haltern eines toten Tierkörpers oder Tierkörperteils, welches den Brustknochen von Schlachtgeflügel enthält, unter Verwendung eines ersten und zweiten Halterungselements, **dadurch gekennzeichnet**, daß durch Eindringen in den Tierkörper in unmittelbarer Nähe des Brustknochens die zwei Halterungselemente letzteren einschließen.
10. Verfahren nach Anspruch 9, **dadurch gekennzeichnet**, daß der Brustknochen zwischen den zwei Halterungselementen eingeklemmt ist.







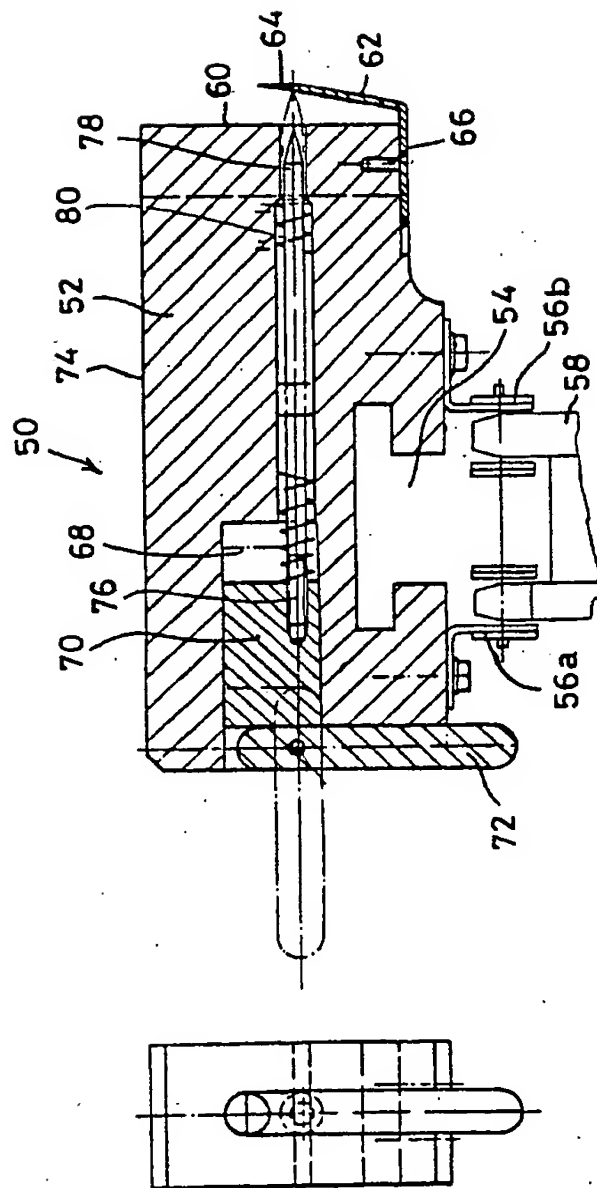


FIG. 5.

FIG. 6.

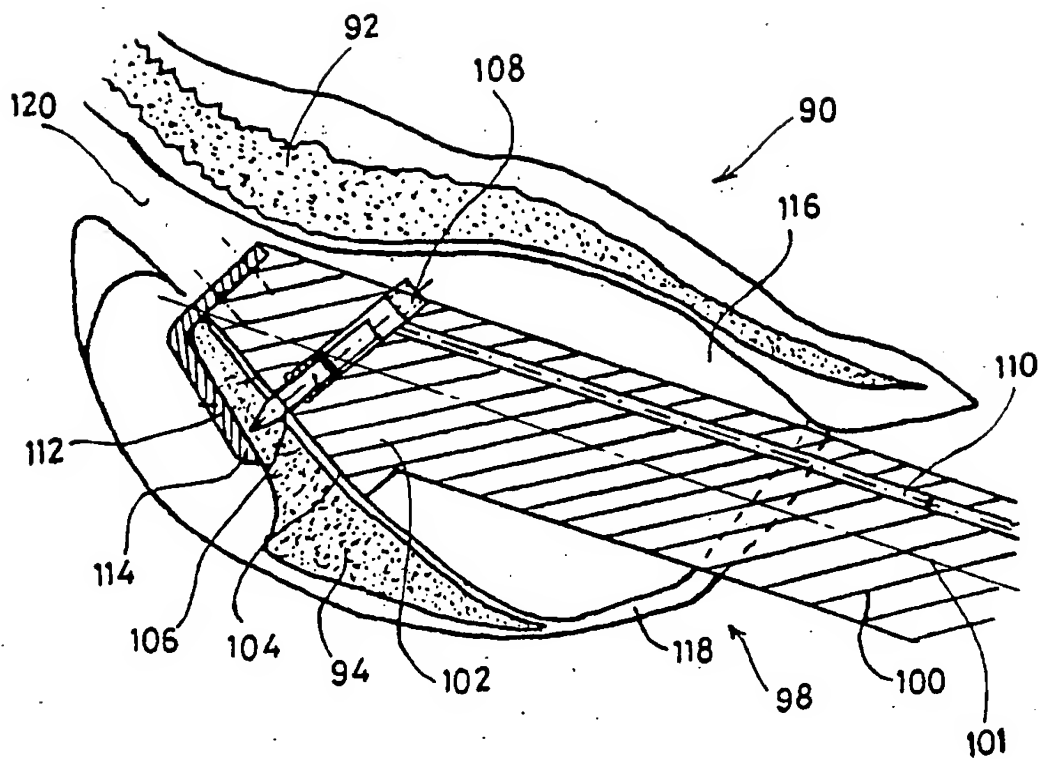


FIG. 7.

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Description

The invention relates to a device for supporting a carcass or part of a carcass of poultry, by supporting the breastbone thereof, comprising a first support member being shaped as a supporting surface for supporting the inner side of the breastbone and a second support member being an elongated member extending parallel or at an acute angle to said supporting surface of the first support member, the first and the second support member having surface parts facing one another.

A device of this kind is known from DE-C-3 444 340. In this prior art, the first support member is a support block having a supporting surface for supporting the carcass or part of a carcass of poultry at the inner side of the breastbone, whereas the second support member is an elongated pin having a point which is movable at an acute angle to the supporting surface between a first position in which the point is under the supporting surface and a second position in which the point projects from the supporting surface. Thus, in the second position, the second support member supports the carcass or part of a carcass at the inner side of the breastbone, like the first support member.

The invention aims to provide an excellent support of the above-mentioned kind for supporting a carcass or carcass part of poultry by supporting the breastbone thereof. To this end, the second support member is suitable for supporting the outer side of the breastbone, and for penetrating into connective tissue and/or flesh parts of the carcass in the immediate proximity of the breastbone.

By means of this measure an excellent support of the carcass of carcass parts is obtained with the further advantage that the carcass or carcass parts is fixed by gripping a waste part (the breastbone). Damage to the flesh part is thus avoided and a support in the most hygienic manner possible is achieved. The clamping has to be effected only once whereupon all necessary operations are directly possible. The two support members form a fixed reference point in relation to which the carcass or carcass part is fastened, and this fixed reference point can thus also be used as a reference for carrying out mechanical operations.

Advantageous embodiments of the invention are indicated in Claims 2 to 8. The invention furthermore provides a method for supporting a carcass or part of a carcass as defined in claim 9, and advantageously executed as defined in claim 10.

The invention will now be explained on the hand of the drawings.

Figure 1 is a side view partly in section, of a first embodiment of the mounting supporting according to the invention.

Figure 2 is a view from below, partly in section, of this embodiment.

Figures 3a and 3b illustrate the position of this embodiment in relation to the parts of a breast portion

which is to be filleted, in longitudinal section and bottom view respectively.

Figures 4a to 4d illustrate the use of this embodiment.

Figure 5 is a longitudinal section of a second embodiment of the invention.

Figure 6 is an end view of this embodiment.

Figure 7 illustrates the use of a third embodiment for supporting a large carcass part.

The embodiment shown in Figure 1 and designated with numeral 10 is intended for supporting a breast portion which is to be filleted, and comprises a casing 12 and a head 14. The casing 12 has a recess 16, in which is received an operating member 18 adapted to turn with respect to the casing 12; by means of a ball 22, which is loaded by a spring 20 and which snaps into recesses in the operating member 18, desired angular distances can be adjusted.

Facing the end face 26 of the head 14 is disposed a blade-like separating member 28, which is fastened to the head 14 and has an end edge 30. A shaft 32 is fastened in the operating member 18, passing through a corresponding bore in the casing 12 and the head 14 and being fastened therein by a lock screw 34. An elongate pin 36 provided with a sharp point 38 at its free end passes through this shaft 32. The pin 36 can be moved in the longitudinal direction by means of the eccentric operating member 40.

Figures 3a and 3b show the use of this embodiment for securing a breast portion 42. As shown in the drawing, the end face 26 of the head 14 and the blade 28 embrace the breastbone 44, while when the device is thus fitted the sharp end of the blade 28 penetrates into the flesh 46 directly adjoining the breastbone 44. By means of the pin 36, which is thereupon pressed into the breastbone 44, additional security is achieved in the fastening of the breast portion on the mounting support, which in one embodiment, in which the breast portion can be turned into different positions, may be of importance, although not essential.

Since the head 14 can turn with respect to the casing, the breast portion can be variously positioned for different operations to be carried out for the purpose of removing the breast flesh 46, all as shown in Figures 4a to 4d.

These figures show how the device 10 rests by the bottom surfaces 11 and 13 on the guideways 15 and 17 of a conveyor track 19, along which it is moved in the direction of the arrow 21 (see Figure 4b).

Figure 4a illustrates the mounting of the breast portion with the breastbone between the end face 26 and the blade 28; by means of the operating member 40 the pin 36 is operated so that its point 38 penetrates into the breastbone. This operating of the member 40 can be effected by hand, but also with the aid of an appropriate guide 23, along which the support device 10 moves. Between the guideways 15 and 17 a fixed stop 25 is disposed, which cooperates with the operating member 18 and, on the passing of the filleting block, turns the head

14 together with the breast portion 42 by means of this operating member 18 into a position suitable for a certain operation, for example in the direction of the arrow 27. The operations can be carried out either by hand or by means of tools installed at various processing stations.

Figures 5 and 6 relate to a slightly modified embodiment, which is based on the same principle and is used in the same way. This embodiment of the mounting block according to the invention, which is indicated as a whole by the reference numeral 50, comprises the casing 52 provided with a recess 54, which is T-shaped in section and by means of which the casing is mounted on a suitable carrier of corresponding profile. The casing 52 is coupled by means of brackets 56a, 56b to a drive chain 58 and, carrying a carcass part, is carried along a number of processing positions. At one end (the right-hand end in the drawing) the casing 50 ends in an end face 60, opposite a blade-shaped separating member 62 having an end edge 64 is disposed and fastened by means of the screw 66; at the other end the casing 50 has a recess 68 containing a sliding member 70, which can be moved in the longitudinal direction of the casing by means of a pawl 72. An elongate pin 74 is fastened by its left-hand end 76 in the sliding member 70; its sharp right-hand end 78 lies opposite the end of the blade 62. A spring 80 disposed around the pin 74 urges the sliding member 70, and consequently the pin 74, into a position in which its tip 78 is retracted.

The embodiment described above is used in the same way as the embodiment previously described.

With both embodiments the breastbone can be fractured after the breast portion has been secured, breaking in the brittle part of the bone, that is to say where the pin penetrates into the bone. The fillet thus spreads out, and the ribs can easily be removed. The use of the pin provides the advantage that the bone is weakened by the penetration of the pin.

The use of the device according to the invention obviously goes further than solely supporting a breast portion for the removal of the breast meat. Figure 7 shows schematically an embodiment which is particularly suitable for supporting larger carcass parts, such as indicated as a whole by the reference numeral 90; the figure also shows the backbone 92 and the breastbone 94 with the breast fillet 96. The mount support 98 is here provided with the casing 100, which at the front end terminates in the head 102, whose front face 104 includes an acute angle with the longitudinal axis 101 of the casing 100. The head 102 contains the locking pin 106, which for example can be operated hydraulically by supplying pressurized water to the space 108 behind the pin 106 via the passage 110. Here again the separating member 112 equipped with the end edge 114 and cooperating with the end face 104 is provided.

The mounting support is introduced into the body cavity 116 through the usual extraction opening 118 formed in a previous operation, and is pressed into the head and neck cavity until the end edge 114 of the blade 112 has passed the front edge of the breastbone 94; the

blade can then be hooked around the front edge of the breastbone.

It is observed that in all embodiments the separating member penetrating into the immediate proximity of the breastbone, in conjunction with the end surface facing it, forms a fixed reference point, in relation to which the carcass part is positioned, so that the operations on the carcass part can be carried out not only by hand, but also with tools which can be adjusted in relation to this reference point. Since the separating member penetrates into the carcass part in the immediate proximity of the breastbone, no valuable breast meat is damaged.

Claims

1. Device for supporting a carcass or part of a carcass (42, 90) of poultry, by supporting the breastbone thereof, comprising a first support member (26, 60, 104) being shaped as a supporting surface for supporting the inner side of the breastbone and a second support member (28, 62, 112) being an elongated member extending parallel or at an acute angle to said supporting surface of the first support member (26, 60, 104), the first and the second support member having surface parts (26, 28; 60, 62; 104, 112) facing one another, characterized in that the second support member is suitable for supporting the outer side of the breastbone, and for penetrating into connective tissue and/or flesh parts (46) of the carcass in the immediate proximity of the breastbone.
2. Device according to Claim 1, characterized in that said second support member (28, 62) is made in the form of a blade.
3. Device according to Claim 1 or 2, characterized in that the first support member is formed by the end face (20, 60, 104) of a holder (14, 52, 100) to which the second support member (28, 62, 112) extending parallel or at an acute angle to said end face, is fastened.
4. Device according to Claim 3, characterized in that the holder (14, 52, 100) contains a locking member (36, 74, 106) provided with a sharp point and adapted to move to-and-fro, in the direction of the second support member (28, 62, 112), through an opening in the end face (20, 60, 104).
5. Device according to Claim 6, characterized in that the locking member consists of a locking pin (36, 74, 106).
6. Device according to Claim 3 to 5, characterized in that the holder (14, 52) is supported by a carrier (12) for rotation about the longitudinal axis of the locking pin (36, 74).

7. Device according to Claim 6, characterized in that the holder is formed by an elongate casing (100) having a thickened end portion (102) whose front face (104) forms the end face and encloses an acute angle with the longitudinal axis (101) of the casing and that the securing member (106) is received in said end part.
8. Device according to Claim 3 to 7, characterized in that the holder (14) is mounted on a conveyor track (15, 17).
9. Method of supporting a carcass or carcass part containing the breastbone of slaughtered poultry, using first and second support members, characterized in that by penetrating into the carcass in the immediate proximity of the breastbone the two support members embrace the latter.
10. Method according to Claim 9, characterized in that the breastbone is clamped between the two support members.

Patentansprüche

1. Vorrichtung, die einen toten Geflügelkörper oder einen Teil eines toten Geflügelkörpers (42,90) hält, indem der Brustknochen desselben gehalten wird, die ein erstes Halterungselement (26,60,104) umfaßt, das als eine Halterungsfläche geformt ist, die die Innenseite des Brustknochens hält, sowie ein zweites Halterungselement (28,62,112), das ein längliches Element ist, das sich parallel oder unter einem spitzen Winkel zu der Halterungsfläche des ersten Halterungselementes (26,60,104) erstreckt, wobei das erste und das zweite Halterungselement Oberflächenteile (26,28;60,62;104,112) aufweisen, die einander zugewandt sind, **dadurch gekennzeichnet**, daß sich das zweite Halterungselement dazu eignet, die Außenseite des Brustknochens zu halten und in Bindegewebe und/oder Fleischteile (46) des toten Tierkörpers in unmittelbarer Nähe des Brustknochens einzudringen.
2. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet**, daß das zweite Halterungselement (28,62) in der Form einer Lamelle hergestellt ist.
3. Vorrichtung nach Anspruch 1 oder 2, **dadurch gekennzeichnet**, daß das erste Halterungselement durch eine Endstirnfläche (20,60,104) eines Halters (14,52,100), an welchem das zweite Halterungselement (28,62,112), das sich parallel oder unter einem spitzen Winkel zu der Endstirnfläche erstreckt, befestigt ist, gebildet ist.
4. Vorrichtung nach Anspruch 3, **dadurch gekennzeichnet**, daß der Halter (14,52,100) ein Verriegelungsteil (36,74,106) enthält, welches mit einem

scharfen Punkt versehen, und dazu vorgesehen ist, sich in der Richtung des zweiten Halterungselements (28,62,112) durch eine Öffnung in der Endstirnfläche (20,60,104) hin- und herzubewegen.

5. Vorrichtung nach Anspruch 4, **dadurch gekennzeichnet**, daß das Verriegelungsteil einen Verriegelungsstift (36,74,106) umfaßt.
6. Vorrichtung nach Anspruch 3 bis 5, **dadurch gekennzeichnet**, daß der Halter (14,52) durch einen Träger (12) zum Drehen um die Längsachse des Verriegelungsstifts (36,74) gehalten ist.
7. Vorrichtung nach Anspruch 6, **dadurch gekennzeichnet**, daß der Halter durch ein längliches Gehäuse (100) mit einem verdickten Endteil (102) gebildet ist, dessen Frontstirnfläche (104) die Endstirnfläche bildet und einen spitzen Winkel mit der Längsachse (101) des Gehäuses einschließt, und daß das Verriegelungsteil (106) in dem Endteil aufgenommen ist.
8. Vorrichtung nach den Ansprüchen 3 bis 7, **dadurch gekennzeichnet**, daß der Halter (14) auf einer Förderbahn (15,17) angebracht ist.
9. Verfahren zum Haltern eines toten Tierkörpers oder Tierkörperteils, welches den Brustknochen von Schlachtgeflügel enthält, unter Verwendung eines ersten und zweiten Halterungselements, **dadurch gekennzeichnet**, daß durch Eindringen in den Tierkörper in unmittelbarer Nähe des Brustknochens die zwei Halterungselemente letzteren einschließen.
10. Verfahren nach Anspruch 9, **dadurch gekennzeichnet**, daß der Brustknochen zwischen den zwei Halterungselementen eingeklemmt ist.

Revendications

1. Dispositif pour supporter une carcasse ou une partie d'une carcasse (42, 90) de volaille, en supportant le sternum de celle-ci, comprenant un premier élément support (26, 60, 104) qui a la forme d'une surface support pour supporter le côté interne du sternum, et un second élément support (28, 62, 112) qui est un élément allongé parallèle ou faisant un angle aigu avec ladite surface support du premier élément support (26, 60, 104), les premier et second éléments supports ayant des parties de surface (26, 28; 60, 62; 104, 112) qui se font face, **caractérisé en ce que** le second élément support est approprié pour supporter le côté externe du sternum et pour pénétrer dans les tissus conjonctifs et/ou des parties de chair (46) de la carcasse à proximité immédiate du sternum.

2. Dispositif suivant la revendication 1, caractérisé en ce que le second élément support (28, 62) est fait en forme de lame.
3. Dispositif suivant la revendication 1 ou 2, caractérisé en ce que le premier élément support est formé par la face d'extrémité (20, 60, 104) d'un boîtier (14, 52, 10) auquel est fixé le second élément support (28, 62, 112) parallèle ou faisant un angle aigu avec ladite face d'extrémité. 5
10
4. Dispositif suivant la revendication 3, caractérisé en ce que le boîtier (14, 52, 10) contient un élément de verrouillage (36, 74, 106) pourvu d'un point aigu et adapté pour se déplacer alternativement dans la direction du second élément support (28, 62, 112) par une ouverture dans la face d'extrémité (20, 60, 104). 15
5. Dispositif suivant la revendication 4, caractérisé en ce que l'élément de verrouillage est une aiguille de verrouillage (36, 74, 106). 20
6. Dispositif suivant l'une des revendications 3 à 5, caractérisé en ce que le boîtier (14, 52) est supporté par un porteur (12) pour tourner autour de l'axe longitudinal de l'aiguille de verrouillage (36, 74). 25
7. Dispositif suivant la revendication 6, caractérisé en ce que le boîtier est formé par un boîtier allongé (100) ayant une partie d'extrémité épaissie (102) dont la face avant (104) forme la face d'extrémité et qui fait un angle aigu avec l'axe longitudinal (101) du boîtier et en ce que l'élément de fixation (106) est logé dans ladite portion d'extrémité. 30
35
8. Dispositif suivant l'une des revendications 3 à 7, caractérisé en ce que le boîtier (14) est monté sur un rail de convoyeur (15, 17). 40
9. Méthode pour supporter une carcasse ou une partie de carcasse contenant le sternum d'une volaille d'abattoir, utilisant un premier et un second éléments de supports, caractérisée en ce qu'en pénétrant dans la carcasse dans le voisinage immédiat du sternum, les deux éléments supports enserrant ce dernier. 45
10. Méthode suivant la revendication 9, caractérisée en ce que le sternum est bloqué entre les éléments supports. 50

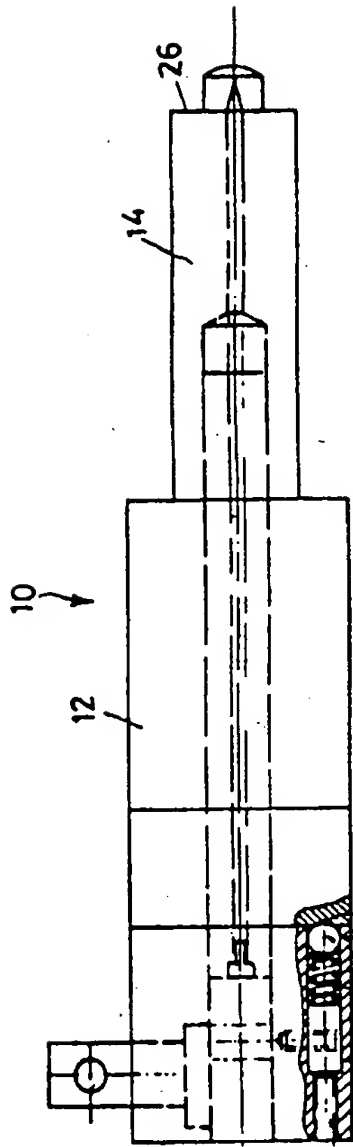


FIG. 1.

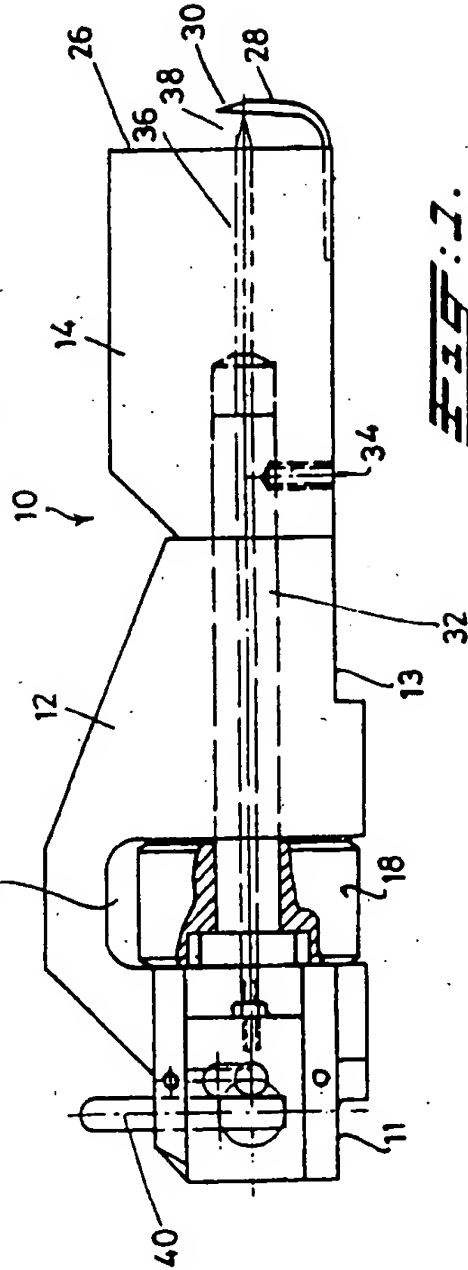
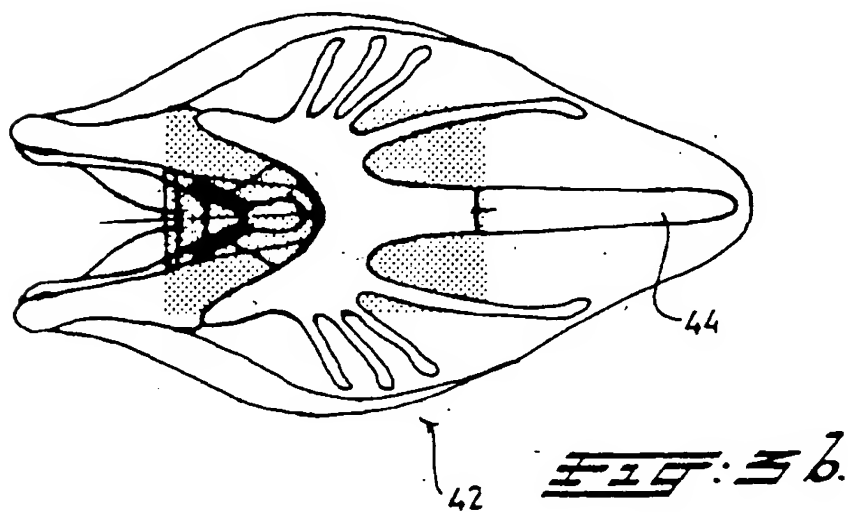
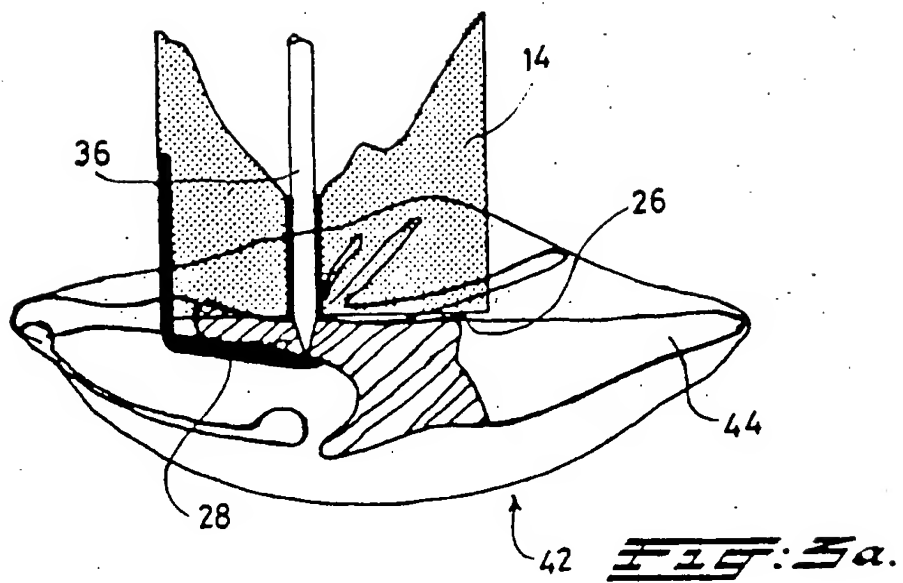
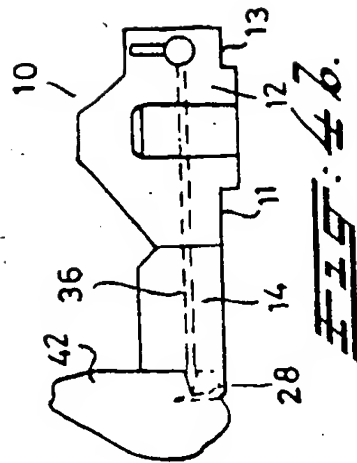
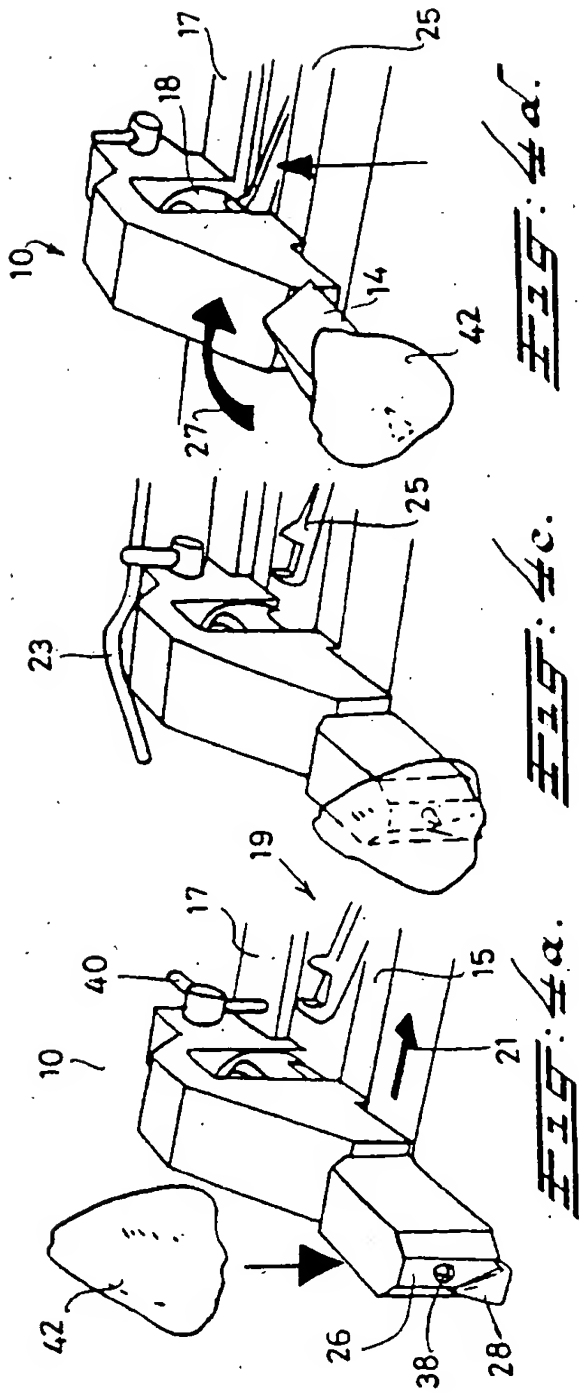
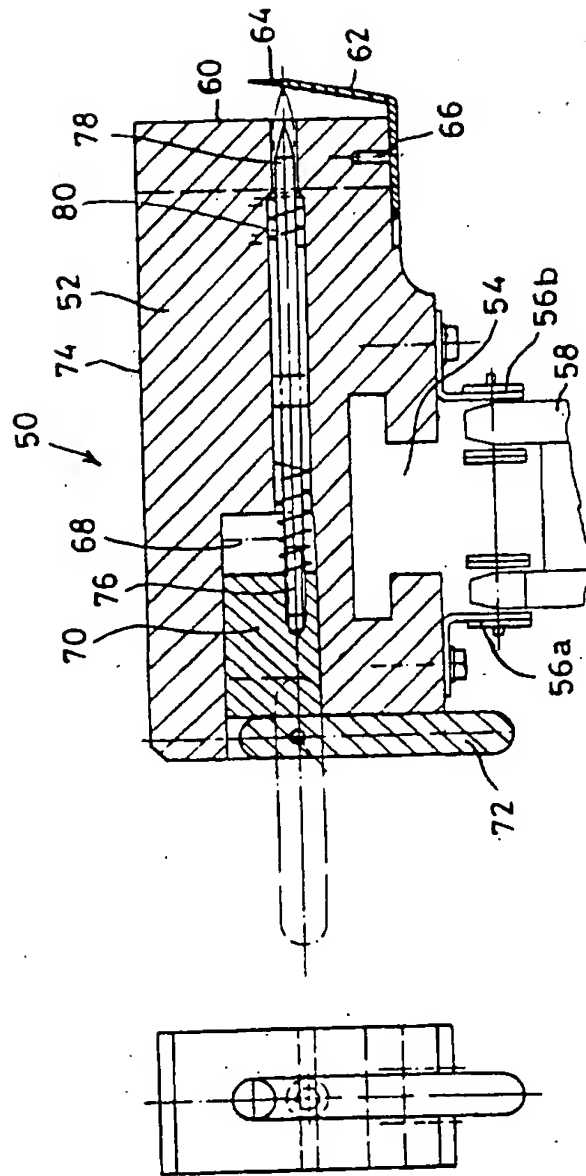


FIG. 2.







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